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FAMILY BACKGROUND FACTORS AND ORIGINALITY IN CHILDREN[1]

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ABSTRACT

Results from a study of family background variables as related to third graders' performance on non-verbal tests of creativity provide suggestions to teachers concerned with creating a climate conducive to originality. Sex did not differentiate the sample, but children from large, working class families appeared less original. This was also true of children whose working mothers held occupations of higher prestige than their fathers. The dynamics and implications of the findings are explored.

FAMILY BACKGROUND FACTORS AND ORIGINALITY IN CHILDREN

Originality can be defined as the ability to see the novel in commonplace settings, to use language in unconventional ways and to produce the unusual in behavior and behavior outcomes. This paper is concerned with variations in originality among grade school children as related to family background factors. They are not Wunderkinder, so their productions lack the critical acclaim that would give the children the eminence often associated with those labeled creative. For this reason, the term originality as well as creativity will be used in this paper.

The various definitions in the creativity literature share common elements with the definition of originality. Barron (1963), for example emphasized the "singular insight" of the creative person, and Guilford (1956) contrasted the production of alternatives in the divergent problem solving thinking of the creative to the one answer outcome of the non-creatives.

The factors to be examined in this paper are sex of child, social class, family size, ordinal position and class composition of the grade school the child attends as they influence his originality. These factors possess the advantage for the practitioner interested in children's originality of being relatively easy to operationalize. If they can be shown to be related to children's originality, the practitioner can use the factors as rough indicators of factors affecting originality potential. It is through their effects on interpersonal relations that the factors in this report will be discussed as relating to originality (Dellas and Gaier, 1970).

BACKGROUND FACTORS

It is possible to examine the part background factors play in contributing to interpersonal relations affecting originality. The first of these factors is that of sex. Because of their sex, girls are given less freedom of action that are boys. According to Baumrind and Black (1967), parents maintain a closer surveillance of their daughters and administer more love-oriented discipline measures to them. As a result, Straus and Straus (1968) suggest that girls tend to be concerned about the good opinion of others. And Maccoby (1966) in her review of the literature reported girls to be more fearful and have higher anxiety levels, characterisitcs which with high dependency on others' good opinions would work against originality.

On actual tests of creativity, Straus and Straus (1968) in their cross-national study did find that junior-high-aged girls produced fewer puzzle solving ideas than did their male peers whether in Minnesota or India. The difference was greater in India where women have less freedom and individuality, a finding consistent with the above argument. The conventional family-centered female role places a premium on dependency and sensitivity to the opinion of others. Thus employed mothers by providing a more independent role model should have more original daughters. This was, indeed, the finding of Getzels and Jackson (1962).

Social class too is a background factor influencing originality. The linkage between the two can be made through the child rearing values of the different classes. Working class parents, McKinley (1964) and

Pearlin and Kohn (1966) reported, prefer obedient children more often than middle class parents do and tend to be "more severe and hostile socializers". Conformity to externally imposed rules is appropriate for the type of closely supervised, routine jobs blue collar workers often have, but parental demands for similar conformity creates a concern about rules and rule givers in children that discourages originality.

The linkage between father's occupation and child rearing practices encouraging originality receives some indirect support. Straus (1968) found in his cross-cultural study that working class families produced fewer and a more restricted range of ideas than did middle class families in San Juan, Puerto Rico, Bombay, India, as well as in Minneapolis, Minnesota.

Family size is another background factor with implications of children's originality. Bossard (1956), who pioneered the investigation of this factor, found centralized organization and an emphasis on rules characterized large families.

Ordinal position is a background variable that a number of investigators have studied. In earlier work with eminent men, Galton (1874) and Cattell and Brimhall (1921) found first-borns or only children predominated in the sample. More recent studies of Chambers (1964) and Craik (1961), however, have produced inconclusive results. Nor did Datta (1968) find with a sample of adolescents that potential scientific creativity was associated with the first-born position.

Despite this negative evidence, some have argued that family conditions favor the eldest as far as originality is concerned, at least in two-child families. The dethronement phenomenon is particularly marked for first borns, according to Stout (1960 and Lasko (1964). The inconsistency in warmth and

control might increase the ability of the first born to tolerate ambiguity while he tries to restructure the situation. Under these conditions, Sampson (1965) believed originality would be encouraged.

It could be argued, however, that the greater interaction of the eldest with the parents coupled with the initial high degree of attention and warmth would lead the child to try to regain his lost position through conscientious conformity to parental aspirations and wishes as Warren (1966) found. The only child, of course, never loses his position in the parental interaction hierarchy.

These few hints as to the effect of ordinal position on originality have not been elaborated by much empirical research. No specific hypothesis accordingly will be tested.

The last structural factor to be considered is the social class composition of the school the child attends. Here the marginal man theory of Stonequist (1937) and Dickie-Clark (1966) provides some insight as to how originality might be affected. The person having contact with a social group other than his own and whose members display different ways increases his knowledge of alternative behaviors. The widened range of knowledge coupled with the justaposition of sometimes clashing perspectives can give rise to innovation in the "outsider" through the combination of elements from the contrasting groups.

One situation in which children initially at least, occupy the position of marginal men occurs when they attend a school whose members are predominantly from another class. Blue collar children whose school associates were from professional and managerial background, Reiss and Rhodes (1961) reported,

were less delinquent and planned more often to attend college according to Wilson (1952) than blue collar children attending schools where their class was in the majority. (An assumption of the research is that the blue collar child does not come from a family already possessing middle class values.) But whether in addition to taking on the behavior and values of white collar children, blue collar children retain enough awareness of their somewhat different backgrounds to show originality has not been investigated. It is also a question as to whether white collar children attending blue collar schools accept enough of the ways of their less prestigious peers to give them the broadened perspective reflected in originality attempts.

Based on the presented rationale, it was hypothesized that the first named in each of the following pairs would, on the average, show more originality: boys/girls; middle class/lower class; children from small families/ children from large families; and children whose school mates are from a different class background/children whose school mates are of the same class background. The effects of mothers' occupations outside the home and ordinal position will also be examined.

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METHOD

The data to examine the relationship between test-measured originality and the various structural factors were obtained from 309 male and 311 female, third grade children living with both parents in a suburban and an urban district. The largest proportion of children were attending five suburban schools with the remainder in four urban schools.

Originality Measure. The originality data consist of the children's scores on the Figural Tasks, Non-verbal Form A, of the Minnesota Tests of Creativity (Torrance, 1962). The tests were administered to the children during regular class periods. The sections were blind-scored using the Torrance (1966) scoring manual by an individual who had been serving in this capacity for Professor Torrance four years.

Social Class Index. The Bureau of the Census Classified Index of Occupations and Industries was used to determine the children's class status. Middle class children were defined as those whose fathers were in the white collar occupations of professionals, managers, owners, salesmen and clerks. Children whose fathers were in the blue collar occupations of operatives, foreman, craftsmen, or laborers were classified as working class.

For the school composition analysis, the schools were divided into four groups according to the occupational composition of the grades tested. Group I consisted of the schools where a majority of fathers were professionals, managers, or proprietors and less than one-fifth of the children were from blue collar backgrounds. In group II were schools where a majority of the children were from managerial, professional or proprietor backgrounds, but blue collar children constituted more than 20 percent of the enrollment. Group III contained schools whose third grades had a majority of children from white collar backgrounds. Blue collar children were in the majority in group IV schools.

To examine the relationship of the various background variables and the creativity scores of third grade children, analysis of variance was used. All analyses other than the one for sex were two-way with sex and the

background factor in question as main effects. For brevity's sake, the results in the Tables are limited to main or interaction effects approaching conventional statistical levels.

RESULTS

Sex.

Sex alone did not differentiate the sample, thereby invalidating the first hypothesis which predicted that girls would score lower on test-measured creativity.

Social Class.

Despite the crudeness of the classification, the results with respect to social class support the study hypothesis that middle class children will score higher than working class children. (See Table 1)

Insert Table 1 about here

Women's employment status had no significant effects on the children's originality scores. When one compares the occupations of fathers and mothers, where both work, however, children's creativity scores go down when mothers' jobs are at a higher prestige level than fathers and are highest when fathers' occupations are higher (Table 1).

For this analysis, occupations were grouped into the three categories of 1) professionals, managers and proprietors; 2) sales and clerical workers; and 3) blue collar workers, in that rank order. The occupations of spouses were compared and those where the husbands were in a higher of lower ranking

TABLE I

F SCORES, MEANS AND FREQUENCIES OF TORRANCE CREATIVITY SCORES BY FAMILY BACKGROUND

Family Background Factors	df	F	$\bar{X}$	N
		Factors		
Occupation				
Professional, managerial, proprietors	2,549	4.30**	15.4	293
Sales, clerical			15.5	85
Craftsmen, operatives laborers			13.9	177
Size of Family	2,550	3.27*		
1-2			16.2	122
3-4			14.7	322
5 or more children			14.6	112
Occupational Differences Father and Mother	269	2.90[a]		
Husband higher			17.3	12
Same level			15.2	46
Wife higher			12.3	17

*p < .05
**p < .01
[a] p = .06

occupational level than their wives (housewives were eliminated from this analysis) were differentiated from cases where both spouses were at the same occupational level. Of the 17 cases where women held higher prestige occupations than their husbands, 14 involved white collar-blue collar marriages. Prestige differences are accordingly wider than if the marriages involved professional - sales/clerk unions.

Family Size.

Family size as hypothesized was negatively related to originality with the highest scores in one and two child families. (Table 1).

School Composition.

The school composition results did not support the "marginal man" hypothesis.

Ordinal Position.

Ordinal position alone did not differentiate the sample, but there was a significant interaction between ordinal position and sex, as shown in Table 2. Oldest sons scored highest.

Insert Table 2 about here

Among girls, only children had the highest scores with middle, oldest and youngest having much the same scores. The seven cases of only girls are too few to provide other than suggestive evidence, but class differences do not appear to affect the results. There is some hint, however, that mothers' employment in this analysis may influence the results. Three of seven mothers of only children, work outside the home. This was true of just 13 percent of mothers of girls in other ordinal positions.

TABLE II

F SCORE, MEANS AND FREQUENCIES OF TORRANCE CREATIVITY SCORES ON SEX X ORDINAL POSITION INTERACTION

			Boys		Girls	
	df	F	$\bar{X}$	N	$\bar{X}$	N
Sex X Ordinal position	3,546	2.44[a]				
Only			14.9	13	18.1	7
Oldest			16.5	68	15.5	61
Middle			13.5	117	15.2	133
Youngest			15.3	74	14.9	81

[a] $p=.06$

IQ AND OTHER CONTROLS

The need to extend the analyses and allow for possible confounding variables was particularly apparent with the family size and ordinal position variables. Social class affects family size, and the latter certainly affects ordinal position. In addition, the controversial issue raised by McNemar (1964) of how much common variance there is between test-measured creativity and intelligence suggests that the investigator of originality control for this variable. In the present study, the Pearsonian correlation of Lorge-Thorndike (LT) scores and originality scores in the suburban sample was .19 (N=391); in the city sample, the correlation with the California Mental Maturity (CMM) scores was .28 (N=166). Both results are significant at the .01 level. With the entire LT group, the higher IQ scorers had significantly higher creativity scores on an analysis of variance test. This same positive relation held for boys but not girls who had taken the CMM test.

Further analyses of the data were accordingly run using rough categories of IQ scores in combination with family size, ordinal position and social class. (Other confounding factors such as mother's age at birth of child, and sex ratios of siblings could not be controlled because of lack of data.)

Social Class.

When father's occupation is used as an indicator of social class and rough controls for IQ are used, the trend of the results, was consistent with the hypothesized greater originality of middle class than lower class children. In all four occupation by IQ comparisons, the children who scored lowest on the average on the Torrance tests, came from a blue collar family.

When controls were instituted for ordinal position, only the findings for middle position boys approached statistical significance. /$\overline{F}$-2.70, d.f. 2,112,P=.07 Professional, $\overline{X}$=14.2 (61); White collar, $\overline{X}$=15.0 (14); Blue collar, $\overline{X}$=12.0 (40)/. Blue collar children continued to score lower in two of three comparisons when family size was controlled, though only at the .10 level.

Family Size.

The analyses using IQ and ordinal position controls did not support the earlier finding that the larger the family the lower the originality scores. When father's occupation was used as a control variable, only among blue collar children was there a tendency for less creativity as measured by the Torrance tests to be associated with larger family size.

School Composition.

The results when the effects of school structure are examined in conjunction with father's occupation showing the school structure by IQ level were not significant.

Ordinal Position.

None of the results for the girls were significant. Ordinal position was a statistically significant main effect for only the LT lower level group of boys. The oldest boys had higher average scores than the other positions. /$\overline{F}$=3.504, d.f. 2, 76, P=.03. Oldest boys, $\overline{X}$=16.9 (15); Middle boys, $\overline{X}$=12.4 (39); Youngest boys, $\overline{X}$=14.4 (25)./ This trend also existed among all other IQ groups with the exception of the CMM higher IQ boys. When controls were instituted for family size or fathers' occupations, the ordinal positions results were not significant.

DISCUSSION

The negative results on the hypothesized sex differences in creativity could have resulted from the youth of the children. Girls may not yet have incorporated conventional female role expectations with their emphasis on dependency and obedience, qualities conflicting with originality attempts. Nor did employed mothers have more original daughters. If the sample of employed mothers had been large enough to institute controls for type of occupation and commitment, the results might have been more consistent with the argument of greater originality of working women's daughters.

There was some evidence consistent with the study hypothesis that working class children particularly from large families showed less originality than middle class children. Lack of money for labor saving devices and services, and lack of adequate housing space with resultant pressure for rule conformity in large families, one can speculate, would be exacerbated by class values stressing obedience and conformity.

More, intriguing because unexpected was the finding that children's originality scores are lowest when mothers' occupations are of higher prestige than fathers. One obvious explanation of the results is that children of blue collar fathers, as has already been discussed, tend to be less original. Another possible explanation of the finding is that wives having higher occupational prestige than husbands over-protect their children with resultant ill effects on the children's originality due to guilt feelings over the spousal role reversal. In any case, the effect on children's originality of the comparative occupational prestige of

husband and wife seems worthy of further investigation. This is particularly true with the women's liberation movement encouraging professionally trained women to utilize their talents throughout their life. Not all such women will be married to men having equal occupational prestige.

The results on ordinal position were also interesting. Oldest boys and only girls appeared to be most original. Both positions make for isolation, for onlies because there are no other children and for oldest because they are no longer the center of parental attention. For girls, being an only child seems more optimal than being in the oldest position. Perhaps, they have greater freedom and independence due to fathers who in the absence of sons make companions of their daughters. It may be that the responsibility associated with oldest children is emphasized in oldest girls at the expense of innovativeness.

IMPLICATIONS

The results suggest a healthy scepticism with respect to beliefs concerning family background variables encouraging originality in children. For the third grade sample in this study, the differences were seldom consistently clear-cut. The findings encourage a postponement of parental and teacher judgments as to which young children will display originality. The possibility of "self fulfilling" prophecies in the development of children's originality will thereby be lessened.

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